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**1984/04/24**



## Defense Estimative Brief

### Nuclear Weapons Systems in China (U)

DEB-49-84  
24 April 1984

#### SUMMARY

China has established itself as a nuclear power. The nuclear forces in China, however, will remain small when compared to the Soviet nuclear forces. The Chinese will not try to match the superpowers. The Chinese however, will continue to seek Western technology support for their underground nuclear test program.

We estimate that all currently deployed CSS-1, CSS-2, CSS-3, and CSS-4 missiles have nuclear warheads. A small number of the nuclear capable aircraft probably have nuclear bombs.

Between 150 and 160 warheads are estimated to be in the PRC nuclear stockpile. The limit of the number of warheads is not restricted by nuclear materials production, but on what the Chinese perceive their needs to be.

The estimate of the number of warheads in the Chinese nuclear inventory is based on the delivery systems projections. No direct evidence exists on the actual size of China's present nuclear stockpile; however, indirect evidence derived from Chinese nuclear tests and estimates of the characteristics of deployed delivery systems give some basis for estimating types, yields, and approximate numbers.

[REDACTED]

## Discussion

1. [REDACTED] The Chinese have conducted 29 nuclear tests since 1964. Our assignment of nuclear warheads to Chinese delivery systems is based on the correlation of (1) the nuclear testing sequence, (2) analysis of the nuclear test device characteristics, and (3) the technical characteristics and deployment of delivery systems.
2. [REDACTED] We assume that Chinese nuclear weapons testing will continue at a rate of only one to three tests per year and that the Chinese conduct most of their nuclear tests underground. Further, it is assumed that the Chinese will continue to acquire Western technology for use in test shaft preparation and diagnostics of underground nuclear tests by radiochemical, electronic, and nuclear techniques.
3. [REDACTED] The current Chinese nuclear stockpile appears to be based on a relatively small number of warhead designs which were proof tested in atmospheric nuclear tests (15 kt, 3 MT, and 4-5 MT warheads). Further Chinese thermonuclear warheads above 200 kt will be constrained by the degree to which the Chinese test in the atmosphere or the success which they have in using computer models to extrapolate from lower yield underground tests to higher yields. Although the Chinese are not expected to become a party to any treaty limiting the testing of nuclear weapons, they will probably restrict their nuclear testing to underground tests to the extent their technology permits.
4. [REDACTED] Qualitative improvements that the Chinese are developing for their nuclear warheads will depend on the benefits that Chinese are now deriving from both overt contact with U.S. scientists and technology, and the covert acquisition of U.S. technology. There is evidence that the Chinese have been successful in assimilating into their nuclear weapons program United States technology in areas such as high explosive, radiochemistry, metallurgy, welding, super computers, numerical modeling, high speed photonics, and underground drilling. Throughout the history of the Chinese nuclear weapons program they have followed closely advances in western technology. Increased access to this technology and continued Chinese efforts will in the 1980s and early 1990s show up as qualitative warhead improvements in terms of: (1) increased warhead reliability and confidence, (2) development of more compact warheads, especially for tactical nuclear applications and possibly for MRV warheads,

See PRC Defense Production for Planning (DIPP), DDE-1500-19-84: Section VI, Nuclear Implications dated April 1984.

[REDACTED]

(3) increased hardening of warheads in a nuclear antiballistic missile environment, (4) tailored output devices, such as enhanced radiation and (5) improved warhead safety, storage, and logistics procedures. Thus, in some areas, the gap between United States and Chinese nuclear warhead technology may begin to narrow.

5. [REDACTED] China's potential capacity to produce nuclear weapons delivery systems is a function of available economic resources, materials, skilled manpower, and industrial facilities. Economic resources, materials, and manpower are probably not constraining factors, but we have been unable to monitor their allocations to specific industries. The Chinese apparently have the resources, materials (special metals, petrochemicals and special nuclear materials, etc.) and the manpower to produce more delivery systems than are presently estimated. The capacity of specific nuclear warhead and delivery system factories (based on floorspace area observed in overhead imagery) is also in excess of our estimates, of deployed nuclear systems.

6. [REDACTED] However, two important factors are not taken into account in the estimates: (1) a Chinese strategy for building survivable or redundant production capacity and (2) the effect of the turmoil during the Cultural Revolution. There is evidence of both redundant nuclear production facilities built to increase survivability and instances where nuclear weapons facilities were disrupted during the Cultural Revolution. Given continued internal stability the Chinese have a nuclear industrial complex in place that will allow them to increase the size of their stockpile even beyond the current estimate, if so desired.

7. [REDACTED] The Chinese might find Enhanced Radiation (ER) weapons particularly appropriate for use in defense of their border areas, especially in the Sino-Soviet border area in Northeast China. We know very little, however, about the extent of tactical or theater nuclear weapons for use by the Chinese People's Liberation Army (CPLA). A lack of a basic doctrine or training may indicate that the Chinese have only recently considered integrating nuclear weapons into ground force operations. The Chinese nuclear weapons technological capability would limit the current ground force nuclear support to atomic demolition munitions (ADMs), bombs, and missiles such as the CSS-1; it would not include artillery-fired nuclear projectiles.

8. [REDACTED] We estimate that all currently deployed CSS-1, CSS-2, CSS-3, and CSS-4 missiles have nuclear warheads. A small number of the nuclear capable aircraft probably have nuclear bombs [REDACTED]

[REDACTED] We also estimate that the Chinese maintain ADMs in their [REDACTED]

inventory, although there is no evidence confirming their production or deployment. See table 1 for the best estimate of the number of warheads allocated to the projected forces.

TABLE 1  
NUCLEAR WARHEADS


	<u>1989</u>	<u>1994</u>
CSS-1	5	0
CSS-2	120	120
CSS-3	32	32
CSS-4	9	16
SLBM	24	48
Solid ICBM	0	2
MR/IRBM Follow-on	17	28
Bombs	200	230
ADM's	50	50
SRBM	0	12
ASM	130	250
Follow-on Systems	0	30

9. Implications for the West. China has established itself as a nuclear power. The nuclear forces in China, however, will remain small when compared to the Soviet nuclear forces. The Chinese will not try to match the superpowers. The Chinese however, will continue to seek Western technology support for their underground nuclear test program.

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